BIOTIS LIFE SCIENCE PTY LTD (ABN 96 103 118 887)
11 Norfolk Way, North Ryde,
NSW 2113
TEL: (02) 9889 1995 FAX: (02) 9889 1998

MATERIAL SAFETY DATA SHEET

WEEDS OUT 300 HERBICIDE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	WEEDS OUT 300 HERBICIDE
Product Type	Group I Herbicide
Company Name	**BIOTIS LIFE SCIENCE PTY LTD**
Address	11 Norfolk Way, North Ryde, NSW 2113, Australia.
Telephone Number	02 9889 1995
Fax Number	02 9889 1998
Recommended Use	For the control of emerged broadleaf weeds prior to sowing crops and pastures in conservation tillage situations and for selective weed control in the crops and situations as per the directions for use.

2. HAZARDS IDENTIFICATION

Hazard Classification	Classified as hazardous according to the criteria of NOHSC Australia. Not classified as Dangerous Goods according to the ADG code.
Risk Phrase(s)	R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
Safety Phrase(s)	S13 Keep away from food, drink and animal feeding stuffs. S2 Keep out of reach of children.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Proportion
2,4-D (present as the isopropylamine salt)	94-75-7	300 g/L
Others ingredients	-	Balance

4. FIRST AID MEASURES

Inhalation

Remove affected person to fresh air until recovered.

Skin Contact

Wash affected areas thoroughly with soap and water. If irritation persists, seek medical advice.

Eye Contact

If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.

Seek medical advice immediately.

Ingestion

If swallowed, do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre (Phone number: 13 112). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Water spray, foam, carbon dioxide or dry chemical.

Hazardous from Combustion Products

Not combustible. May emit toxic fumes of hydrogen chloride or phosgene if involved in fires or exposed to extreme heat.

Special Protective Equipment for Fire Fighters

Breathable air apparatus must be worn when fighting a fire in which this product is involved.

6. ACCIDENTAL RELEASE MEASURES

Spills and Disposal

Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).

Collect spilled material and waste in sealable open-top type containers for disposal.

Dispose of at landfill in accordance with local regulations.

Environmental Precautions

Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Handling

For personal protective equipment (PPE) and hygiene advice, refer Section 8.

Storage

Store in the closed original container in a cool, well-ventilated area out of direct sunlight.

Keep container tightly sealed and do not store with seed, fertilizers or foodstuffs.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards

No exposure standard has been established for this product. However, an exposure standard has been set for 2,4-D acid at 10 mg/m^3.

Engineering Controls

Natural ventilation is sufficient when handling concentrate and preparing spray solution.

Personal Protective Equipment

When preparing product for use, wear elbow-length PVC gloves and face shield or goggles.

When using controlled droplet applicator, wear protective waterproof clothing and impervious footwear.

Hygiene Measures

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each dayôs use, wash contaminated clothing and safety equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear light amber liquid
Odor	Ammoniacal odour
Physical state	Liquid
Density	1.10 ± 0.01
pH (Diluted)	8.5 ï 10.5
Solubility in Water	Soluble
Flammability	Non combustible material

10. STABILITY AND REACTIVITY

Stability	Stable for at least 2 years under normal conditions of warehouse storage.
Incompatible Material	Strong acids, strong bases and strong oxidising agents
Hazardous Reactions	Avoid contact of the concentrate with strong alkaline materials. Contact with alkaline material may release Isopropylamine vapour with a strong fish like odour, which is an irritant to eyes. Isopropylamine is moderately toxic, LD_{50} (oral, rat) is 820 mg/kg and a TLV of 5ppm (TWA) has been established.
Hazardous Polymerization	Hazardous polymerization is not possible

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

No harmful effects are expected if the precautions on the label and this MSDS are followed.

Inhalation

The components of the product are of low volatility and no adverse effects are expected from handling the concentrate. The concentrate is considered harmful by inhalation by Worksafe Australia. A moderate hazard exists from inhalation of spray and care should be taken to avoid inhalation of spray mists.

Ingestion

Not a likely route of exposure.

Amounts swallowed incidental to normal handling procedures and use are not expected to cause injury. However, swallowing of large amounts may cause injury. Ingestion of the concentrate in relatively large amounts can result in headache, nausea, lethargy, motor weakness and incoordination.

Skin

Prolonged contact with the concentrate may cause irritation.

Prolonged contact of the concentrate with skin will result in absorption of some 2,4-D which can be harmful.

Eye

The concentrate will cause irritation of the eyes.

Prolonged contact with the concentrate may cause damage to the eye.

Chronic Effects

Chronic Overexposure: Repeated absorption of relatively large amounts of 2,4-D presents a risk to the liver and kidneys.

Carcinogenicity

The weight of the evidence is that 2,4-D is not carcinogenic.

Acute Toxicity-Oral : LD_{50} (rat) : 639-764 mg/kg ; 138mg/kg @ mice

Acute Toxicity-Dermal : LD_{50} (rat) : > 1600 mg/kg

LD_{50} (rabbit) : > 2400 mg/kg

Acute Toxicity-Inhalation : LC_{50} Inhalation (rat) : >1.79 mg/L (24 h)

Other Information

The Australian Acceptable Daily Intake (ADI) for 2,4-D for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.0 mg/kg/day, the level determined to show no effects during long-term exposure for the most sensitive indicators and the most sensitive species.

(Ref: Comm. Dept. of Health and Ageing, óADI Listô, TGA, September 2006)

12. ECOLOGICAL INFORMATION

Persistence/Degradability

Half life in soil is typically 7 days.
Loss from soil is principally by microbial degradation.

Mobility

Rapid degradation in soil prevents significant downward movement under normal conditions.

Environment Protection

Spray drift can cause damage, read the label for more information.

Acute Toxicity-Fish	Not toxic to fish LC_{50} (96 h) Rainbow trout: ~100 mg/L
Acute Toxicity-Daphnia	EC_{50} (21 d) Daphnia: 235 mg/L
Acute Toxicity-Bird	Not toxic to birds LD_{50} Wild duck: > 1000 mg/kg LD_{50} Japanese quail: > 668 mg/kg LD_{50} Pigeons: > 668 mg/kg LD_{50} Pheasants: > 472 mg/kg
Acute Toxicity-Bees	Not toxic to bees LD_{50} Bees: 104.5 µg/bee

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13. DISPOSAL CONSIDERATIONS

Product Disposal

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals.

Container Disposal

Do not use this container for any other purpose. Triple rinse containers; add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for the refill or storage. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree root.

Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

Considered non-dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Poisons Schedule	S5
Packaging and Labelling	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

16. OTHER INFORMATION

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user must review this information in the specific context of the intended application. BIOTIS LIFE SCIENCE PTY LTD. will not be responsible for damages of any nature resulting from use of or reliance upon this information.